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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,436	06/30/2000	Eiji Muramatsu	Q59947	9744

7590 05/05/2004  
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EXAMINER

FERGUSON, LAWRENCE D

ART UNIT PAPER NUMBER

1774

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

<b>Office Action Summary</b>	<b>Application No.</b> 09/608,436	<b>Applicant(s)</b> MURAMATSU ET AL.	
	<b>Examiner</b> Lawrence D Ferguson	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4 and 7-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4 and 7-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment mailed February 20, 2004. Claims 2, 7, 14 and 17 were amended and claims 24-27 were added. Claims 5 and 6 were previously cancelled in the response dated March 6, 2003, rendering claims 2-4 and 7-27 pending.

### ***New Matter - 35 U.S.C. 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2-4 and 7-27 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 2 and 14, the phrase, "grooves in said first recording layer are disposed in a first direction perpendicular to a surface of said first transparent substrate," in claims 7 and 17, the phrase "first grooves are disposed in a first direction perpendicular to a surface of said first transparent substrate" and in claims 24-27, the phrase, "in a direction perpendicular to said surface of said first transparent substrate" are not supported by the specification.

***Claim Rejections – 35 USC § 103(a)***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4 and 7-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al (U.S. 5,881,032) in view of Hirata et al (U.S. 5,242,729) further in view of Kanno (U.S. 6,103,331).

Ito teaches a string of pits and lands formed in a transparent substrate, which is coated (laminated) to form each recording layer, where a transparent resin is injected between the first and second recording layers (column 2, lines 24-27). Ito further teaches the coated aluminum layer reflects light (column 2, lines 25-31). Ito discloses an information storage medium comprising plural recording layers wherein the spiral reproduction directions are opposite on different layers assigned to sectors at the same radial positions on different layers having a complementary relationship (column 4, lines 41-46). Ito discloses an information storage media in which the data recording grooves are formed on the first and second recording layers (column 9, lines 56-65) along with elevated and retracted grooves in different directions as shown in Figure 12. Ito does not disclose where the grooves are thicker than the lands.

Art Unit: 1774

Hirata teaches a recording medium having a recording layer and a transparent substrate (column 3, lines 24-28) where the recording layer has thicker grooves than lands (column 11, lines 5-9). Ito and Hirata are analogous because they are both from the field of recording mediums. It would have been obvious to one of ordinary skill in the art to include thicker grooves than lands in the recording mediums of Ito because Hirata teaches thicker grooves and less thick lands help produce the proper reflectivity to provide reproduction in accordance with the CD standard (column 11, lines 5-9).

Neither reference explicitly teaches a recessed groove in the first recording layer and raised groove in the second recording layer. Kanno teaches optimizing (varying) the groove depth (column 6, lines 53-57) of a recording medium (column 6, line 7). Kanno teaches depending on the characteristics of the film as the recording layer, the depth and shape of the groove should be optimized (column 6, lines 50-55). All of the references are analogous art because they are from the field of recording mediums and teach the lands and grooves. It would have been obvious to one of ordinary skill in the art to vary the grooves of Ito because Kanno teaches the structure and composition of the recording medium greatly affect the groove. The height of the groove is important because the amount of deformation at the groove bottom causes jitters. As a result, reproduced signals and tracking signals become more dependent on wavelength so the depth of the groove relative to wavelength is of great importance.

***Claim Rejections – 35 USC § 103(a)***

6. Claims 2, 7-14 and 17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takishita et al (U.S. 6,169,721) in view of Kanno (U.S. 6,103,331).

Takishita discloses an adhered double sided recording medium having a transparent substrate (column 2, lines 1-5 and 39-40) where each recording medium comprises grooves and lands, a recording layer, reflection layer and protection layer adhered by an adhesive layer (column 2, lines 45-59). Figure 2 shows the grooves of recording layers (5) are in opposite directions from each other. Although Takishita teaches an additional protective layer and reflective layer, the instant claim reads comprising which infers that other layers may be present. Additionally, Takishita does not explicitly disclose the layers arranged as instantly cited in claims 7, 12, 13, 17, 22 and 23. Rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Although the reference does not explicitly teach the thickness of the grooves and lands, the thickness of the grooves and lands are optimizable and directly affects the storage capability and transmission of the recording medium. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch* 205 USPQ 215 and see *In re Aller* 105 USPQ 233.

Takishita does not teach a recessed groove in the first recording layer and raised groove in the second recording layer. Kanno teaches optimizing (varying) the groove depth (column 6, lines 53-57) of a recording medium (column 6, line 7). Takishita and Kanno are analogous art because they are from the field of recording mediums. It would

Art Unit: 1774

have been obvious to one of ordinary skill in the art to vary the grooves of Takishita because Kanno teaches the structure and composition of the recording medium greatly affect the groove. The height of the groove is important because the amount of deformation at the groove bottom causes jitters. As a result, reproduced signals and tracking signals become more dependent on wavelength so the depth of the groove relative to wavelength is of great importance.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishiuchi et al (U.S. 6,661,749) teaches a recording medium having a substrate with raised and recessed portions of guide grooves (column 7, line 33 through column 8, line 5).

### ***Response to Arguments***

8. Although Applicant includes claims 5-6 as originally filed, claims 5-6 were cancelled in the response sent on March 6, 2003.

Applicant's remarks to the rejection made under 35 USC 103(a) as being unpatentable over Ito et al (U.S. 5,881,032) in view of Hirata et al (U.S. 5,242,729) further in view of Kanno (U.S. 6,103,331) have been considered but are unpersuasive. Applicant amends claims 2, 7, 14 and 17 to recite the relative positions of the grooves of the two recording layers with respect to the surface of the first transparent substrate. Applicant amends to include in claims 2 and 14, the phrase, "grooves in said first

Art Unit: 1774

recording layer are disposed in a first direction perpendicular to a surface of said first transparent substrate," in claims 7 and 17, the phrase "first grooves are disposed in a first direction perpendicular to a surface of said first transparent substrate" and in claims 24-27, the phrase, "in a direction perpendicular to said surface of said first transparent substrate" which are not supported by the specification. Furthermore, Applicant points out the grooves are in opposite directions. Figure 12 of Ito shows the grooves in opposite directions.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should



Application/Control Number: 09/608,436

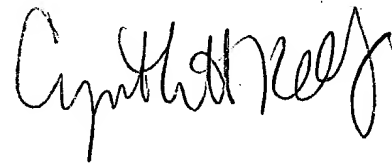
Page 8

Art Unit: 1774

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence D. Ferguson  
Examiner  
Art Unit 1774

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

A handwritten signature in black ink, appearing to read "Cynthia H. Kelly", written in a cursive style.